

CLAIM

1. An equol-producing lactic acid bacteria-containing composition comprising, as an essential component thereof, a
5 lactic acid bacterial strain belonging to the genus *Lactococcus* having an ability to utilize at least one daidzein compound selected from the group consisting of daidzein glycosides, daidzein, and dihydrodaidzein to produce equol.

2. The composition according to Claim 1, wherein said
10 lactic acid bacterial strain belonging to the genus *Lactococcus* is *Lactococcus garvieae*.

3. The composition according to Claim 2, wherein said lactic acid bacterial strain belonging to *Lactococcus* is *Lactococcus* 20-92 deposited under FERM BP-10036.

15 4. The composition according to Claim 1 further comprising at least one member selected from the group consisting of daidzein compounds and daidzein compound-containing ingredients.

5. The composition according to Claim 4, wherein the
20 daidzein compound-containing ingredient is soybean flour or soy milk.

6. The composition according to Claim 4 which is in the form of a beverage or a milk product.

7. The composition according to Claim 4 further
25 comprising equol.

8. The composition according to Claim 7 which is in the form of a fermentation product of soy milk.

9. A method of producing equol comprising the step of letting a lactic acid bacterial strain belonging to the genus
30 *Lactococcus* having an ability to utilize a daidzein compound to produce equol act on at least one member selected from the group consisting of daidzein compounds and daidzein compound-containing ingredients.

10. The method according to Claim 9, wherein said lactic
35 acid bacterial strain belonging to the genus *Lactococcus* is

Lactococcus garvieae.

11. The method according to Claim 10 wherein said lactic acid bacterial strain belonging to the genus *Lactococcus* is *Lactococcus* 20-92 deposited under FERM BP-10036.

5 12. The method according to Claim 9, wherein the daidzein compound-containing ingredient is soybean flour or soy milk.

13. A lactic acid bacterial strain belonging to the genus *Lactococcus* as deposited under FERM BP-10036.